

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NIKE, INC.,

Plaintiff,

-against-

LULULEMON USA INC.,

Defendant.

23-cv-771 (AS)

MEMORANDUM OPINION
AND ORDER

ARUN SUBRAMANIAN, United States District Judge:

This case was filed by Plaintiff Nike, Inc. against Defendant lululemon usa inc. It concerns Nike's patented Flyknit technology. Dkt. 1 at ¶ 10. According to Nike, lululemon's shoes infringe claims in three of Nike's Flyknit patents: the '749, the '046, and the '484. There are four terms from these claims with disputed constructions. The Court held a hearing on December 11, 2023, and resolved two of the disputes, as reflected below. This order resolves the two remaining disputes on which the Court reserved decision.

LEGAL STANDARDS

Claim terms are generally given their "ordinary and customary meaning," which is the meaning one of ordinary skill in the art would ascribe to a term at the time of the invention, when read in context of the claim and specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Apple Inc. v. MPH Techs. Oy*, 28 F.4th 254, 259 (Fed. Cir. 2022) (quoting *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). The Federal Circuit has made clear that "[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1318 (Fed. Cir. 2016) (quoting *O2 Micro Int'l, Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008)). For this reason, "[a] determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *Id.* (quoting *O2 Micro*, 521 F.3d at 1361).

"For claim construction . . . we begin with the intrinsic evidence, which includes the claims, written description, and prosecution history. If the meaning of a claim term is clear from the intrinsic evidence, there is no reason to resort to extrinsic evidence." *Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1287 (Fed. Cir. 2021) (citations omitted); *Profectus Tech.*

LLC v. Huawei Techs. Co., 823 F.3d 1375, 1380 (Fed. Cir. 2016) (“Extrinsic evidence may not be used ‘to contradict claim meaning that is unambiguous in light of the intrinsic evidence.’” (quoting *Phillips*, 415 F.3d at 1324)). Claim language is always the most important reference for interpreting terms. “[A] claim construction analysis must begin and remain centered on the claim language itself, for that is the language the patentee has chosen to particularly point out and distinctly claim the subject matter which the patentee regards as his invention.” *Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1299 (Fed. Cir. 2014) (brackets omitted) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The ’749 patent issued on September 18, 2012, with an effective filing date of March 3, 2004. The ’046 patent issued on June 28, 2016, with an effective filing date of September 30, 2014. And the ’484 patent issued on August 15, 2017, with an effective filing date of November 10, 2006. In terms of the person of ordinary skill in the art, Nike says it is someone with “at least a few years of experience in the footwear industry, a bachelor’s degree in textile-related sciences, a bachelor’s degree in engineering, or equivalent academic experience.” Dkt. 74 at 8. lululemon disagrees and says it is “someone who would have had at least a bachelor’s degree in mechanical engineering, textile engineering, or similar technical degree and at least 3 years of experience working with knitted textiles for use in clothing or other articles to be worn, such as footwear.” Dkt. 88 at 1. But the parties’ arguments don’t turn on whether the person of ordinary skill is one or the other, and the parties agreed at the hearing that the distinction is not relevant to the issues raised on this motion.

DISCUSSION

I. The Court adopts Nike’s construction of “incorporating [the knitted textile element].”

The parties dispute the meaning of “incorporating [the knitted element/at least one of the first and second knitted textile elements] into the article of footwear,” which appears in claims 1 and 13 of the ’749 patent. The parties’ proposed constructions are shown below:

Nike’s Construction	lululemon’s Construction
Ordinary and customary meaning. No further construction required.	the removed knitted textile element is incorporated into the article of footwear without the addition of other non-knitted textile elements prior to its incorporation

For the reasons stated at the December 11, 2023 hearing, the Court rejects lululemon’s construction of this term. As the Court observed at the hearing, lululemon’s proposed construction includes the words in the disputed claim term—“incorporat[ed],” “knitted textile element,” and “article of footwear”—which is telltale evidence that those terms do not require construction. See Dkt. 88 at 18. And the Court rejects lululemon’s additional language: “without the addition of

other non-knitted textile elements prior to its incorporation.” *Id.* There is no basis for this proposed limitation in the claim language, the specification, or the intrinsic record, and lululemon’s proposal would read out examples in the specification of the ‘749 patent, contrary to bedrock claim construction principles. No further construction of this claim term is required.

II. The Court adopts Nike’s construction of “tubular structures.”

The parties dispute the meaning of “tubular structures,” which appears in asserted claims 1–3, 16, 17 and 20 of the ’046 patent. The parties’ proposed constructions are below:

Nike’s Construction	lululemon’s Construction
Ordinary and customary meaning; tube like structures.	Plain and ordinary meaning, which is elongated hollow structure

At the outset and for the reasons stated at the December 11, 2023 hearing, the Court declines to construe this term to include the word “elongated.” The word would only confuse the jury by begging the question: elongated relative to what? And the specification of the ’046 patent indicates that “the shape and dimensions of tubular rib structures can vary,” Dkt. 1-2 at 7:31–44, undermining lululemon’s proposal.

Putting that issue to the side, the remaining question is whether the “tubular structures” referenced in the ’046 patent must be hollow. In a prior case, the District of Massachusetts said no. See Dkt. 74-10, *Nike Inc., v. Puma North America, Inc.*, 18-cv-10876 (D. Mass. Oct. 24, 2019) (*Puma*). In *Puma*, the defendant proposed virtually the same construction that lululemon proposes here (“hollow elongated cylinder”) and the court rejected it. *Id.* at 16. First, largely for the same reasons mentioned above, the court rejected the argument that a tubular structure must be “elongated.” *Id.* at 16 (citing Dkt. 1-2 at 7:34–44).

The court also “reject[ed] a construction imposing a hollow limitation into the tube-like structures” for two reasons. *Id.* at 17. First, “nothing in the intrinsic evidence disavows [non-hollow] structures” and, although “[t]he specification does disclose” that in “different embodiments” the tubular structures are hollow, it would be “improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims.” *Id.* (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004)). Second, the court noted that the “term ‘tubular’ ordinarily encompasses non-hollow (or solid) tube-like structures.” *Id.* The *Puma* court’s second finding—that “the term ‘tubular’ ordinarily encompasses non-hollow (or solid) tube-like structures”—was not accompanied by any analysis or citation to evidence. Given the lack of explanation, the Court declines to blindly adhere to this part of the court’s ruling.

Nevertheless, the Court finds Nike’s construction to be more appropriate. To be sure, lululemon does identify support for its position. First, various sources indicate that a “tubular structure” will generally be hollow. The 2014 version of Webster’s New World College Dictionary

defines “tubular” as “of or shaped like a tube” and then defines a “tube” as “hollow.” Dkt. 88-9. Similarly, the 2013 version of the American Heritage Desk Dictionary defines “tubular” as “of or having the form of a tube” and defines “tube” as a “hollow cylinder.” Dkt. 88-10.

Second, other courts have also construed the plain and ordinary meaning of “tubular” or “tube” to require a hollow structure. *See Wonderland Nurserygoods Co. v. Baby Trend, Inc.*, 2020 WL 13680678, at *4 (C.D. Cal. Dec. 30, 2020) (“The Court finds that plain meaning applies: an upright/support tube is a hollow cylinder.”); *Wyers Prod. Grp., Inc. v. Cequent Performance Prod., Inc.*, 2015 WL 1515896, at *5 (D. Colo. Mar. 30, 2015) (“By definition, a tube is hollow.”); *Weatherford Int'l, LLC v. Blackhawk Specialty Tools, LLC*, 2015 WL 12778644, at *1 (S.D. Tex. Jan. 15, 2015) (defining “tubular body” as a “hollow cylindrical member”); *Bal Seal Eng'g Co. v. Jay Qiang Huang*, 2011 WL 11796683, at *4 (S.D. Cal. Aug. 1, 2011) (defining “generally tubular shaped” as a “structure that for the most part is a round, elliptical or oval cylinder, with a hollow cross-section”); *Reddy Ice Corp. v. Schur Mktg. & Techs. U.S.A. Inc.*, 2010 WL 11515495, at *4 (D. Ariz. June 9, 2010) (defining “tube” as “a hollow elongated structure”); *Ohio Willow Wood Co. v. ALPS S. Corp.*, 2006 WL 8424017, at *5 n.4 (S.D. Ohio Mar. 31, 2006) (“[T]he plain meaning of ‘tube’ is ‘a hollow elongated [usually] cylindrical body.’”); *Bos. Sci. Corp. v. Cordis Corp.*, 2003 WL 27376856, at *16 (N.D. Cal. Oct. 8, 2003) (“The parties have not asked the Court to interpret the term ‘tube,’ but it seems clear to the Court that the plain meaning of a tube is hollow and thus open at both ends.”).

Third, the ‘046 patent specification also refers to “tubular structures” as being hollow in various places. In one key reference, “tubes” are associated with “tunnels.” *See, e.g.*, Dkt. 1-2 at 7:19–22 (“Two or more knit layers may be formed of unitary knit construction in such a manner so as to form *tubes or tunnels*, identified as tubular rib structures 126, in knitted component 100.” (emphasis added)). The specification also uses “rib structures” (rather than “tubular structures”) to refer to instances when the tubular structures may be solid. *See id.* at 4:56–59 (stating in the Detailed Description that a “knitted component 100 can include rib structures” and “[i]n some cases, the rib structures can be hollow tubes”).

In its reply brief, Nike says “[o]ther portions of the specification make clear that ‘the shape and dimensions of tubular rib structures 126 can vary across knitted component 100.’ ‘In some embodiments,’ the ‘tubular rib structures 126 can generally be shaped as a cylinder,’ *rather than a hollow tube or tunnel.*” Dkt. 89 at 2 (emphasis added) (quoting Dkt. 1-2 at 7:34–44). But this characterization of the specification is misleading. The words “hollow tube or tunnel,” which are Nike’s words, are not reflected in the quoted paragraph from the specification. Instead, the specification states that “tubular rib structures 126 can generally be shaped as a cylinder,” but they may vary between “an elongated cylindrical shape with a wider top portion” or a “circular or elliptical cylinder.” Dkt. 1-2 at 7:37–43. This language indicates that the *shape* of the tubular structure may vary; it is not addressing whether tubular structures must be hollow or not.

But there is one problem with lululemon’s proposed construction. A tube need not *always* be hollow. Tubes can be filled (mail tubes, toothpaste tubes, etc.) and yet they don’t suddenly lose

their tubular nature. While they may no longer be fully “hollow” like a tube, they still retain the “shape” or the “form” of a tube, which is consistent with the dictionary definitions of “tubular” referred to above. The specification of the ‘046 patent also recognizes this fact. It notes that “[i]n some embodiments, the central area of tubular rib structures 126 may be configured such that another element (e.g., a tensile element) *may be located between and pass through* the hollow between the two knit layers forming tubular rib structures 126.” Dkt. 1-2 at 7:26–30 (emphasis added). In this example, while the tubular structure is initially hollow, one might not describe the structure as hollow once it is filled with the referenced tensile element. This is a problem for lululemon because its proposed construction would potentially confuse a jury to think that where a tubular structure is filled by another element, it is no longer “hollow,” and thus no longer a tubular structure.

Nike’s construction still makes clear that the “tubular structure” must be “tube-like,” which requires that the structure have the shape or form of a tube. And Nike’s construction, but not lululemon’s, leaves open the possibility of a structure that has the shape of a tube but is filled. But the proposed construction has limits. To give an example, Nike won’t be well-heard to argue that structures bearing none of the characteristics of a tube are in fact tubular. For example, the Court would closely scrutinize an argument from Nike at summary judgment that a flat or wavy element without intersecting sides is a “tubular structure.” At this juncture, however, the Court will adopt Nike’s proposed construction of “tubular structures” as “tube-like structures.”

III. The Court adopts a modified form of lululemon’s construction of “flat knitting process.”

The parties dispute the meaning of “flat knitting process,” which appears in asserted claims 1, 11, 12, 13, and 14 of the ’484 patent. The parties’ proposed constructions are below:

Nike’s Construction	lululemon’s Construction
Ordinary and customary meaning; a knitting process yielding a substantially flat sheet of knitted material.	Plain and ordinary meaning, which is a subtype of weft knitting, in which the weft knit textile is produced as a sheet of more or less flat material.

The parties both agree that a flat knitting process must yield a “substantially” or “more or less” flat material. But Nike says that a flat knitting process can include both weft knitting and warp knitting, if the resulting material is flat. lululemon says that a flat knitting process is one of two subtypes of weft knitting. The Court agrees with lululemon that “flat knitting process” is a particular type of weft knitting, not any knitting that spits out flat material.

On its face, the ’484 patent does not provide a clear answer to the parties’ dispute. The specification provides various examples of how flat knitting can be used. *See, e.g.*, Dkt. 1-3 at 4:50–52 (“For example, flat knitting can be used to provide textile structures for use in footwear uppers of a final desired shape . . .”); *id.* at 5:1–3 (“Additionally, flat knitting can be used to

produce pockets, tunnels, or other layered structures in the final product.”). But these descriptions do nothing to explain whether “flat knitting” is synonymous with a subtype of weft knitting or whether the term includes any knitting process that can be used to make a flat material.

At one point, the ‘484 specification states that “[f]lat knitting may be contrasted with circular knitting.” *Id.* at 7:34–35. This might lend support to Nike’s position that flat knitting requires only that the output be flat, since flat knitting is compared to circular knitting, and no reference is made to weft knitting. But two sentences later, the specification “entirely incorporate[s] . . . by reference” another one of Nike’s patent applications, No. 2005/0193592 (‘592 publication). Dkt. 1-3 at 7:41; *see X2Y Attenuators, LLC. v. Int’l Trade Comm’n*, 757 F.3d 1358, 1362–63 (Fed. Cir. 2014) (“The incorporated patents are effectively part of the host patents as if they were explicitly contained therein.” (cleaned up)). The ‘592 publication (and therefore the ‘484 patent) identifies flat knitting as a subtype of weft knitting, and not a type of warp knitting. The publication states:

In general, the mechanical processes may be classified as either warp knitting or weft knitting. With regard to warp knitting, various specific sub-types that may be utilized to manufacture a textile include tricot, raschel, and double needle-bar raschel (which further includes jacquard double needle-bar raschel). *With regard to weft knitting*, various specific sub-types that may be utilized to manufacture a textile include circular knitting and *flat knitting*. Various types of circular knitting include sock knitting (narrow tube), body garment (seamless or wide tube), and jacquard.

Dkt. 88-3 ¶ 0044 (emphasis added).

In response, Nike argues that this paragraph “merely states that ‘weft knitting’ ‘may’ ‘include circular knitting and flat knitting.’” Dkt. 89 at 3. But this is once again a misleading characterization. The specification states that: “With regard to weft knitting, various specific sub-types that *may be utilized* to manufacture a textile include circular knitting and flat knitting.” Dkt. 88-3 ¶ 0044 (emphasis added). Contrary to Nike’s assertion, the specification does not say that “weft knitting” “may” include “flat knitting.” Instead, the specification says that flat and circular knitting are subtypes of weft knitting and that they “may be utilized” to make textiles.

There’s more. After recognizing in the passage above that one form of warp knitting is “jacquard double needle-bar raschel,” the specification later indicates that this knitting process “may be utilized to form a flat-textile structure.” Dkt. 88-3 ¶ 0061. On first glance, this language would seem to help Nike’s position that a warp knitting process can be flat knitting. However, immediately after that reference, the specification refers to “*other* types of knitting, such as a flat knitting” *Id.* (emphasis added). The distinction between jacquard double needle-bar raschel (which can create a flat textile) and flat knitting makes it clear that when the patentees use “flat knitting,” they are referring to a specific process and not just any process used to make flat textiles.

The contrast drawn out by the intrinsic evidence—between process and output—is pertinent to Nike’s evidence. Nike directs the Court to a statement by its expert, Dr. Christopher Pastore, that:

In my experience, some individuals may sometimes use the term “flat-knitting” to refer to “flat bed” or “v-bed” weft knitting. However, as I discuss above, skilled artisans also use “flat-knitting” to refer to types of knitting that yield flat knit elements, which includes both warp and weft knitting. . . . At a fundamental level, persons of ordinary skill in the art as of 2006 would have understood that flat knit fabrics were made from either flat warp or flat weft knitting methods.

Dkt. 74 at 14 (quoting Dkt. 74-7 ¶¶ 27, 30). Nike’s expert, like the ’592 publication, acknowledges that flat textiles can be made from both warp and weft knitting processes. But the question is what “flat knitting” means when the term is used to refer to a process. In that regard, the intrinsic evidence indicates that a flat knitting process is a type of weft knitting. Even Dr. Pastore seems to recognize this by acknowledging that at least for “some individuals,” flat knitting as a process refers to a brand of weft knitting. And in line with the distinction between process and output reflected in the intrinsic evidence, lululemon’s expert indicated that “[w]hen people refer to flat knit and flat knit process, they’re talking about weft-knitting, and when they talk about a flat knit element or fabric, it can be from warp or weft. It could be from anywhere.” Dkt. 74-6 at 157–60.

To the extent that there is further uncertainty, the extrinsic record also strongly supports lululemon’s position. The ’592 publication issued as U.S. Patent No. 7,347,011 (’011 patent). The ’011 patent was the subject of an inter partes review (IPR) related to litigation with adidas. During the IPR, Nike attempted to amend the ’011 patent to change the claim term “weft-knitted textile element” to “flat knit textile element.” Dkt. 88-4 at 1–2. Nike argued to the Patent Trial and Appeal Board (PTAB) that this substitution “narrow[ed] the scope of [the] issued claim.” *Id.* at 3. Nike also argued to the PTAB that “[a] ‘flat knit textile element’ is a weft knit textile element.” Dkt. 88-5 at 1. Nike claimed that adidas’s construction of a flat knit textile element to include warp knit fabrics was “contrived” and “inconsistent with the ’011 specification, the Petition, the original testimony of Petitioner’s expert, an authoritative dictionary definition, and a knitting text submitted by Petitioner.” *Id.* In adopting Nike’s position, the PTAB found that Nike “presents evidence that a person of ordinary skill in the art would understand flat knitting to describe a sub-type of weft knitting.” Dkt. 88-6 at 15. The PTAB quoted Nike’s textile dictionary, which stated that “the trade uses the term flat knit fabric to refer to weft knit fabrics made on a flat machine, rather than warp-knit fabrics.” *Id.* The PTAB construed flat knitting to be “a sub-type of weft knitting, in which the weft knit textile is produced as a sheet of more or less flat material.” *Id.* at 16.

At the hearing on this matter, Nike claimed that its statements needed to be viewed in context. The ’011 patent referred to a “weft-knitted textile element,” which could include weft-knitted elements that are either flat or circular. So according to Nike, it was narrowing the patent by excluding circular weft-knit elements. The problem with this argument is that Nike did not

suggest changing “weft-knitted textile element” to “flat weft-knitted textile element.” Instead, Nike felt that using “flat knit textile element” was sufficient to convey this new meaning—at least when viewed from the perspective of a person of ordinary skill in the art. So viewed in context, Nike’s position before the PTAB supports lululemon’s present construction.

In addition, Bhupesh Dua and Edward Thomas, the inventors of the ’484 patent, both gave depositions in an International Trade Commission (ITC) proceeding against adidas. The inventors both testified that flat knitting is not warp knitting. *See* Dkt. 88 at 12–13 (quoting Dkt. 88-14); *see also* Dkt. 88-15 at 41:6–22. Thomas stated:

Q: Can a flat knitting machine knit warp textile?

A: No.

Q: Can a flat knitting machine knit weft textiles?

A: Yes.

Dkt. 88-14 at 19:10–15. Thomas also said that raschel knitting (a subtype of warp knitting that may produce flat textiles) is not flat knitting. *See id.* at 186:10–17.

In addition, in the ITC proceeding, Nike’s expert Dr. Pastore submitted an expert report. Dkt. 88-12 ¶ 1. There, Pastore indicated that “all flat knitting is flat weft knitting.” ¶ 40; *see also* ¶ 44 (“In my analysis, all flat knitting is flat weft knitting.”). Pastore also explained that “[w]eft knitting machines can be further divided into two categories: circular knitting machines . . . and flat knitting machines.” ¶ 69. Nike contends that this Court should ignore these prior statements because they were made in the context of an “unrelated” patent. Dkt. 74 at 17–18. But the statements pertain to patents that have the same inventors as the ’484 patent and that are in the same family as the ’011 patent (based on the ’592 publication, which was incorporated into ’484). *See* Dkt. 88-12 ¶¶ 76–77. Granted, a lot of the evidence in the extrinsic record has to do with flat knitted *materials*, as opposed to flat knitting *processes*. As noted above, in the context of the material that is output, there is a sound argument that either warp or weft knitting processes can yield a flat knit material, even if “flat knitting” as a process denotes a form of weft knitting. What is telling is that even in that more inclusive context, Nike has repeatedly in the past taken the position that flat knit means weft knit.

The intrinsic and extrinsic evidence in the record makes clear that a person of skill in the art would have understood “flat knitting process” to refer to a subtype of weft knitting, rather than any knitting process that yields a flat material. For these reasons, the Court adopts a modified form of lululemon’s construction, and will construe “flat-knitting process” to mean “flat weft-knitting process.”

IV. The Court adopts neither party's construction of "flat-knitted element."

The parties dispute the meaning of "flat-knitted element," which appears in asserted claim 1 of the '484 patent. The parties' proposed constructions are below:

Nike's Construction	lululemon's Construction
Ordinary and customary meaning. No further construction required.	a flat-knitted element having the claimed features is formed from a [flat- knitting process] using at least one yarn

During the December 11, 2023 hearing, the Court proposed a modified construction of this term to address lululemon's concerns. The Court proposed that "the flat-knitted element including a first layer . . ." be construed as "the formed flat-knitted element including a first layer . . ." Both parties agreed to this construction and so it is adopted.

CONCLUSION

For these reasons and those stated on the record at the December 11, 2023 hearing, the disputed claim terms will be construed as set forth above.

SO ORDERED.

Dated: December 28, 2023
New York, New York



ARUN SUBRAMANIAN
United States District Judge